tech.mit.edu



WEATHER, p. 2 FRI: 61°F 50°F Scattered Showers SAT: 59°F | 42°F Partly Cloudy

Volume 135, Number 10 Thursday, April 9, 2015



Assistant U.S. Attorney Aloke Chakravarty, one of Dzhokhar Tsarnaev's prosecutors, gives his closing argu-

Tsarnaev guilty of bombing marathon, killing MIT officer Jury to decide whether 21-year-old

gets death penalty or life in prison

By Drew Bent, Tushar Kamath, and Ray Wang

EDITORS

Dzhokhar Tsarnaev was found guilty on Wednesday of all 30 counts he was charged with in the Boston Marathon bombings, including the killing of MIT police officer Sean Collier. The verdict was unanimously reached by the jury after 11 hours of deliberations over two days.

As early as next week, the trial could enter the sentencing phase, in which the jury will determine if Tsarnaev is given the death penalty or life in prison without parole. Out of the 30 convictions, 17 could carry the death penalty.

'While today's verdict can never bring Sean back, we are thankful that Tsarnaev will be held accountable for the evil that he brought to so many families," members of Sean Collier's family said in a statement Wednesday. "[If] these terrorists thought they would somehow strike fear in the hearts of people, they

Tsarnaev Page 13

Cambridge set to ban single-use plastic bags

Ordinance aimed at preserving environment passes in 8-1 vote, will take effect March 2016

By Jennifer F. Switzer

Cambridge has become the largest city on the East Coast to ban single-use plastic bags with the passing of the "Plastic Bag Reduction Ordinance" on March 30. City councillors voted 8-1 to ban single-use plastic bags and impose a 10-cent fee on pa-

Taking effect in March 2016, the ordinance requires food and retail services to replace plastic checkout bags with reusable bags or offer recyclable paper bags for 10 cents. Failure to do so could result in a noncompliance fee of up to \$300 per day.

At the request of Councillor Marc McGovern, the legislation also requires the city to purchase 10,000 reusable bags for low-income residents and the elderly.

The ban will have implications for many popular on-campus dining and retail services, such as LaVerde's, The Coop, and the Stata Center's Forbes Family Cafe run by Chartwells, all of which exclusively rovide single-use plastic checkout

Don Link, Director of Dining Services for Chartwells Higher Education, said that he is working with his corporate management to develop a "new environmentally friendly approach" in response to the ban.

The ordinance states that the reduction of disposable bags in Cambridge is "a public purpose that protects the marine environment, advances solid waste reduction and protects waterways." The ordinance is intended to get people to use reusable shopping bags.

Some Cambridge store owners have contested the ban, arguing that it will cause undue hardship and will not have the desired environmental impact. Brian Houghton, the vice president of the Massachusetts Food Association (MFA), a supermarket trade group that includes Shaws/ Star Market and Trader Joe's, argued that the ban would harm business. He also claimed the ban would disrupt the MFA's current recycling and litter-reduction efforts, which have helped contribute to a 33 percent reduction in disposable bag distribu-

Plastic, Page 11

SAO to put 'checks and balances' on student group transactions After Lil B controversy, new measures are added to process

of signing contracts, transferring big sums between groups

By Katherine Nazemi

In wake of the controversy surrounding rapper Lil B's appearance on campus, the Student Activities Office (SAO) will be adding additional "checks and balances" to the process by which student groups can enter into contracts with outside service providers and transfer funds between other groups, according to Leah Flynn Gallant, director of the SAO.

These changes come in response

to an incident where a student misrepresenting himself as a member of the Black Students' Union (BSU) initiated a contract with Lil B without the group's knowledge. BSU President Grace B. Assaye '16 described the subsequent series of events, involving a transfer of funds from the UA which the Judicial Board later ruled "constitutionally inappropriate," as "a learning experience for the offices that were involved."

There was really no fact checking in the process, there was no making sure that people who signed off on things were signatories, or actually part of the organization, which really could have prevented these things from happening," said Assaye. "It's up to the UA and the SAO to fix that part of the process, which I think the SAO has already

Measures taken by the SAO include requiring "a secondary approval on transfers in excess of \$10,000," said Colin Codner, Assis-

Lil B, Page 14

CHRISTOPHER A. MAYNOR—THE TECH

Ruth Westheimer signs copies of the newest edition of her book, Sex for Dummies, after a discussion about sex in the modern day last Thursday evening. Almost 87 years old and just 4 feet 7 inches tall, Westheimer gave a spirited talk about topics including loving relationships, premature ejaculation, and sexual assault

IN SHORT

Should MIT divest? A debate on fossil fuel investments will be held in Kresge on Thursday, April 9, from 4:30 to 6 p.m.

A naming dedication will be held at the MIT Chapel on Tuesday, April 14, at 12:30 p.m. The stainedglass corridor in the Chapel will be named in honor of the late wife of an MIT alumnus (PhD '68).

Campus Preview Weekend runs from next Thursday, April 16, to **April 19.** Get ready to welcome prefrosh to campus!

Ring delivery for the Class of 2017 will take place on April 22 at the Institute of Contemporary Art.

Drop date is Thursday, April 23.

Send news and tips to news@tech. mit edu

BIG BROTHER IS WATCHING

A cybersecurity bill threatens your privacy. OPINION, p. 4

TRY YOUR HAND AT THESE **PUZZLES**

Check out this week's Technical Problems. FUN, p. 6



FOOTWORK

MIT dance groups show off their moves.

PHOTOS, p. 8

SEXUAL ASSAULT AWARENESS MONTH IS APRIL

A student tells her

CAMPUS LIFE, p. 10

SECTIONS Opinion 4

Arts 9
Campus Life 10
Fun Pages 5, 6
Sports 15

WEATHER

Spring?

By Costa Christopoulos

STAFF METEOROLOGIST

A late-season push of cool air has reminded Bostonians of a dreadfully active winter. Yesterday, Boston saw light rain with sleet mixing in at times. A low pressure system to the south has pushed a tongue of warmer air into region, causing snow to melt as it falls to the surface. After passing through the warm layer, precipitation refreezes and reaches the ground as sleet.

Today, a wintry mixture of sleet and rain will transition to all rain as warmer air works into the region. Tomorrow, winds shift to the south ahead of an approaching cold front, allowing highs to reach 61°F (16°C). The front swings through Boston Friday night, bring drier and slightly cooler conditions on Saturday. Pleasant weather should stick around through the early part of next week. with clear skies and highs in the low 60s°F (16°C).

Extended Forecast

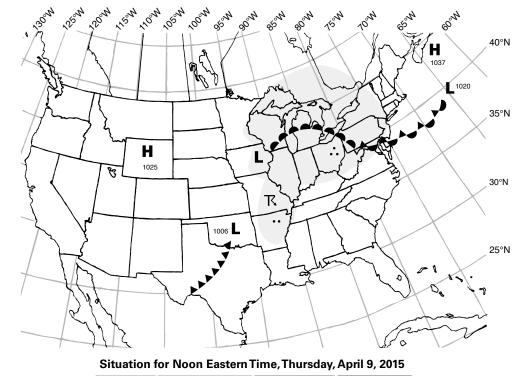
Today: Rain and sleet, with a high of 37°F (3°C). Winds from the northeast at 15 mph.

Tonight: Wintry mix changing over to rain. Low of 37°F (3°C) with winds from the northeast.

Tomorrow: Scattered showers with a high of 61°F (16°C). Winds from the south at 10 mph.

Saturday: Partly cloudy with a high of 59°F (15°C).

Sunday: Sunny with a high of 60°F (16°C).



Weather Systems	Weather Fronts	Precipita	tion Sy	mbols	Other Symbols	
			Snow	Rain	Fog	
High Pressure	Trough Warm Front	Showers	*	$\dot{\nabla}$	Thunderstorm	
Low Pressure	warm Front	Light	*	•	OO Haze	
8	AAAA Cold Front	Moderate	**	••	Compiled by MIT	
§ Hurricane	Stationary Front	Heavy	**	·.	Meteorology Staff and The Tech	



This space donated by The Tech

Thursday, April 9, 2015

A sampling of people you'll meet during a typical dinner at The Tech:

Will. Course 8 Anne, Course 17 Derek, Course 1 Kath, Course 2 Jess, Course **9** Leon, Course 18 Jack, Course 19 Joyce, Course **10** Esme, Course **3** Tushar, Course 20 Vince, Course **12** Dohyun, Course f 4Vivian, Course 5 Anthony, Course 14 Stephen, 21/CMS Keith, Course 22 Maggie, Course **15** Austin, Course **6** Chris, Course **16** Marissa, Course **24** Kali, Course 7

Meet your new pset support group



Four professors named 2015 MacVicar Fellows

On March 13, four MIT professors were named MacVicar Fellows for their contributions to undergraduate education: Arthur Bahr, Catherine L. Drennan, Lorna J. Gibson, and Hazel L. Sive. Each will receive \$10,000 annually for 10 years to aid them in their efforts to enhance the learning experience at MIT.

Bahr is the Alfred Henry and Jean Morrison Hayes Career Development Associate Professor of Literature. Drennan is a professor of chemistry and biology and a Howard Hughes Medical Institute professor and investigator. Gibson, the Matoula S. Salapatas Professor of Materials Science and Engineering, is a professor of civil and environmental engineering and mechanical engineering. Sive is a professor of biology.

Arthur Bahr joined the MIT

faculty in 2007 as an assistant professor of literature with a PhD from University of California Berkeley. According to the MIT News Office, one student described him as able to make medieval studies "cool," teaching to the subject in fun yet challenging ways.

Catherine L. Drennan teaches Principles of Chemical Science (5.111) and has worked at MIT for the past 15 years. In that time, she has tried to "develop classroom material that shows the connection between chemistry and other disciplines, and how chemistry can be used to solve real-world problems," she said in an interview with the MIT News Office.

Lorna J. Gibson became an associate professor of Civil Engineering in 1984 and is described as "crystal clear in her thinking and explanations, totally organized, utterly engaging." Students described her as able to explain tough concepts clearly and coherently while exciting them about the wonders of engineering.

Hazel L. Sive joined the faculty in 1991 and teaches Introductory Biology (7.013). Sive is described as a caring professor whose "incredible energy and enthusiasm" lets her connect with students and become a mentor outside of the classroom.

Since the program's inception in 1992 to commemorate MIT's first Dean of Undergraduate Education and founder of the Undergraduate Research Opportunities Program Margaret MacVicar, MIT has named 42 MacVicar fellows. This year's fellows were named at a symposium hosted by Dean for Undergraduate Education Dennis Freeman PhD '86.

—Anuhya Vajapeyajula



ARTS GRANTS PROGRAM:

NEXT DEADLINE: EXTENDED TO APRIL 10, 2015

Contact: cohen@media.mit.edu

For more information, visit: http://arts.mit.edu/camit-grants-program/

DO YOU WANT TO BE LIKE SHERLOCK HOLMES?

THE TECH IS LOOKING FOR INVESTIGATIVE REPORTERS.

DO YOU LIKE ASKING TOUGH QUESTIONS?

DO YOU ENJOY NOSING AROUND AND COLLECTING EVIDENCE?

IF SO, WE WANT YOU ON OUR TEAM!

JOIN@TECH.MIT.EDU





Chairman

Will Conway '16

Editor in Chief Leon Lin '16

Business Manager Fiona Lam '17

Managing Editor Anthony Yu '16

Executive Editor Tushar Kamath '16

NEWS STAFF

News Editors: Patricia Z. Dominguez '17, William Navarre '17, Katherine Nazemi '17; Associate News Editors: Alexandra Delmore '17, Drew Bent '18, Ray Wang '18; Staff: Stan Gill '14, Kath Xu '16, Rohan Banerjee '18, William R. Rodríguez '18, Sanjana Srivastava '18, Jennifer F. Switzer '18, Amy Wang '18; Meteorologists: Vince Agard '11, Roman Kowch '12, Shaena Berlin '13, Casey Hilgenbrink '15, Ray Hua Wu'16, Costa Christopoulos '17.

PRODUCTION STAFF

Editors: Justine Cheng '17, Colleen Madlinger '17, Lenny Martinez '17, Vivian Hu '18; Staff: Judy Hsiang '12, Esme Rhine '15, Krithika Swaminathan '17, Karia Dibert '18, Sophie Mori '18.

OPINION STAF

Editor: Claire Lazar '17; **Staff:** Feras Saad '15, Aaron Hammond '17.

SPORTS STAFF

Editors: Souparno Ghosh G, Ali C. Soylemezoglu '17; **Staff:** Austin Osborne '15.

ARTS STAFF

Editor: Karleigh Moore '16; Staff: Juan Alvarez G, Daniel Kolodrubetz G, Ian Matts G, Edwina Portocarrero G, Kristen Sunter G, Katie Villa G, Roberto Perez-Franco PhD '10, Denis Bozic '15, Chennah Heroor '15, Ariel Schvartzman '15, Rachel Katz '17, Priya T. Kikani '17, Tara Lee '17.

PHOTOGRAPHY STAFF

Editors: Jessica L. Wass '14, Tristan Honscheid '18, Daniel Mirny '18, Megan Prakash '18; Associate Editors: Ho Yin Au '13, Alexander C. Bost; Staff: David Da He G, Kento Masuyama G, Melissa Renée Schumacher G, Christopher A. Maynor '15, Sherry Ren '15, Sarah Liu '16, Landon Carter '17, Chaarushena Deb '18, Robert Rusch '18.

CAMPUS LIFE STAFF

Staff: Stephanie Lam G, Emily A. Moberg G, Davie Rolnick G, Victoria Young G, Jing Lin '18; Cartoonists: Letitia W. Li G, Paelle Powell '15, Stephanie Su '15, Steve Sullivan '15, Erika S. Trent '15, Timothy Yang '15, Dohyun Lee '16.

BUSINESS STAFF

Advertising Manager: Angela Leong '18; Operations Manager: Aaron Zeng '18; Staff: Nayeon Kim '16, Madeline J. O'Grady '16, Joyce Zhang '16, Michelle Chao '17, Casey Crownhart '17, Junsheng Ma '17, Jessica Pointing '18.

TECHNOLOGY STAFF

Director: Jiahao Li '18; **Staff:** Greg Steinbrecher G, Zygimantas Straznickas '17.

ONLINE MEDIA STAFF

Staff: Stephen Suen '15.

EDITORS AT LARGE

Senior Editors: Tami Forrester '15, Austin Hess '15, Jacob London '15, Annia Pan '15.

ADVISORY BOARD

Paul E. Schindler, Ir. '74, V. Michael Bove '83, Barry S. Surman '84, Deborah A. Levinson '91. Jonathan E.D. Richmond PhD '91, Karen Kaplan '93, Saul Blumenthal '98, Frank Dabek '00, Satwiksai Seshasai '01, Daniel Ryan Bersak '02, Eric J. Cholankeril '02, Nathan Collins SM '03, Tiffany Dohzen '06, Beckett W. Sterner '06, Marissa Vogt '06, Andrew T. Lukmann '07, Zachary Ozer '07, Austin Chu '08, Michael McGraw-Herdeg '08, Omari Stephens '08, Marie Y. Thibault '08, Ricardo Ramirez '09, Nick Semenkovich '09, Angeline Wang '09, Quentin Smith '10, Jeff Guo '11, Joseph Maurer '12, Ethan A. Solomon '12, Connor Kirschbaum '13, Jessica J. Pourian '13, Aislyn Schalck '13, Anne Cai '14, Kali Xu '15, B.D. Colen.

PRODUCTION STAFF FOR THIS ISSUE

Anthony Yu '16, Justine Cheng '17, Colleen Madlinger '17, Vivian Hu '18.

The Tech (ISSN 0148-9607) is published on Thursdays during the academic year (except during MIT vacations), Wednesdays during January, and monthly during the summer by The Tech, Room W20-483, 84 Massachusetts Avenue, Cambridge, Mass. 02139. Subscriptions are \$50.00 per year (third class). POSTMASTER: Please send all address changes to our mailing address: The Tech, P.O. Box 397029, Cambridge, Mass. 02139-7029. TELEPHONE: Editorial: (617) 253-1541. Business: (617) 258-8324. Facsimile: (617) 258-8226. Advertising, subscription, and typesetting rates available. Entire contents © 2015 The Tech. Printed by Upper Valley Press, Inc.

The unnoticed expansion of domestic surveillance

An advancing cybersecurity bill may further compromise citizens' privacy

By Keertan Kini

Earlier this week, John Oliver of HBO's Last Week Tonight presented a compelling piece on the upcoming deadline for the reauthorization of the Patriot Act — the law passed in the wake of the 9/11 attacks which greatly enhanced the government's powers of surveillance. At the time, the public asked few questions, demanding action for greater security and disregarding the potential cost. Twelve years later, Edward Snowden leaked classified documents from the National Security Agency about the breadth and depth of the NSA's surveillance programs from that point forward, sparking national and international debate.

Programs such as PRISM for foreign surveillance and domestic wiretapping drew huge outcry. At the time, Brazilian President Dilma Rousseff accused the U.S. on the floor of the United Nations of "a breach of international law and an affront" to national sovereignty. Similar claims were made about domestic programs, especially since the their capabilities, let alone their use, were unknown to the vast majority of Americans.

In the two years since the furor, the public has largely forgotten the debate on domestic surveillance. Oliver interviewed Snowden on these matters, trying to draw attention to the impending expiration, and likely subsequent reauthorization, of the Patriot Act on June 1, but June 1 is not the most imminent deadline. We are poised to repeat our mistakes with a bill that critics have already dubbed the "Patriot Act 2.0": the Cyber Information Sharing Act (CISA) that may be signed into law by May.

In the wake of high-profile security breaches — of Sony Pictures, Anthem, JP Morgan, Home Depot, and Target to name a few — which exposed corporate data, credit card data, and social security numbers, Congress has taken action. In a bill aimed at improving cybersecurity and preventing further data breaches, the Senate Intelligence Committee passed CISA, which will likely be voted on later this month. The bill incentivizes companies to share threat information and offers liability protection to those that do.

The bill is not merely a knee-jerk reaction to a few rare and prominent leaks. According to Netherlands-based security firm Gemalto, in 2014, there were more than 1400 data breaches of companies and government agencies, resulting in over 974 million data records being lost or stolen — an increase by almost 50 percent from 2013. Only 4 percent of the breaches were consid-

ered "secure," in which the records exposed were rendered useless by encryption.

However, when CISA passed the Senate Intelligence Committee on March 13 by a 14-1 vote, only Sen. Ron Wyden, D-Ore., voted against it. In a public statement, he wrote, "If information-sharing legislation does not include adequate privacy protections then that's not a cybersecurity bill—it's a surveillance bill by another name ... It makes sense to encourage private firms to share information about cybersecurity threats. But this information sharing is only acceptable if there are strong protections for the privacy rights of law-abiding American citizens."

Many individuals and groups echoed his warning. In a letter to Chairman Richard Burr, R-N.C., and Vice Chairman Diane Feinstein, D-Calif., a coalition of civil liberties groups, security experts, and academics warned that "CISA disregards the fact that information sharing can — and to be truly effective, must — offer both security and robust privacy protections." Signatories include the ACLU, the Electronic Frontier Foundation, the Brennan Centre for Justice, and MIT's own Prof. Ronald L.

The biggest criticisms stem from the bill's broad definitions and uses of the shared data. Under the bill, the government may retain and use any shared information resulting from cybersecurity threats related to "an imminent threat of death, serious bodily harm, or serious economic harm." The use of shared data is not limited to any specific agency. Under the Homeland Security Act of 2002, the data would be shared with "all appropriate government agencies," including the FBI and NSA. The data may be used not only in combating broad threats but also in criminal proceedings. Since all data shared under the act by companies is voluntary, the data would be accessible without a warrant, without a judge to determine relevance. Lastly, given the liability protections extended to companies who share data, consumer privacy protections from corporations are potentially undermined.

We live in a constantly accelerating world of sensors and networks, where the Internet of Things is becoming more real every day. Not knowing what information about you is being shared and analyzed is disconcerting at best and terrifying at worst. Yet instead of engaging with these pressing issues, the news is inundated with predictions of a presidential contest 19 months away.

Proponents of the legislation note that any data accepted must be stripped of per-

sonal information. They also state that only data directly pertinent to cyberattacks can be shared. Regardless of interpretation, the bill has a much better chance of being signed into law than its predecessor last year, the Cyber Intelligence Sharing and Protection Act (CISPA) that was prevented from passage by civil rights organizations. According to ACLU media strategist Rachel Nausbaum, CISA is potentially worse than its forebear, stating in a blog post that it "fails to limit what the government can do with the vast amount of data to be shared with it under this proposal."

However, the bipartisan support for CISA in the Senate and the presence and support for similar House bills — the Protect Cyber Networks Act and the National Cybersecurity Protection Advancement Act — mean that the measure will likely pass Congress. Both House bills are scheduled for the week of April 20, and CISA will likely hit the Senate floor at the same time. Reports this week about a breach of the White House and State Department networks last year are adding even more pressure for cybersecurity and information-sharing legislation. The final version of this bill may well be law by May.

The debate over privacy and security is incredibly complex, especially since those professionals and officials who have the most knowledge to weigh the costs and benefits cannot share that knowledge in the service of national interests. Victories are not announced, while failures are public and quite possibly fatal. The Patriot Act was passed in the shadow cast by 9/11, with the motto "never again" on everyone's lips for good reason. Yet avoiding this debate due to its complexity or its inherent murkiness is incredibly shortsighted.

Civil rights activists often quote Benjamin Franklin: "Those who would give up essential Liberty, to purchase a little temporary Safety, deserve neither Liberty nor Safety." The quote, while accurate in wording, is often taken out of context. Rather than Franklin favoring liberty over safety, he was denouncing a choice presented to him by the colonial governor of Pennsylvania. Franklin sought both liberty and safety, unwilling to trade either.

Security and privacy interests need not be at odds with one another. So rather than waiting a decade until the next Edward Snowden reveals the scale and scope of government surveillance, before the final version of CISA becomes law, we should have this public debate. We should never have stopped.

Keertan Kini is a member of the Class of 2016.

CORRECTIONS

Undergraduate Association President Shruti Sharma '15 has retracted a quote published last week in an article about her authorization of a payment to rapper Lil B. Sharma originally said: "I wanted to do something that would make it easier and the way it was presented was almost like SAO [Student Activities Office] also wanted me to sign this ... it seemed like I needed to sign it that day." In an email to *The Tech*, Sharma clarified her

position: "It was not the SAO pressuring me directly as conversations with Leah [Flynn] only started after the fact. Instead, it was presented from the student that the contract had been signed already and as a result, funding had to be delivered so BSU [Black Students' Union] would not go into debt. As the UA's responsibility is to help students and especially to support groups, it seemed to me that the UA needed to step in to help."

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Will Conway, Editor in Chief Leon Lin, Managing Editor Anthony Yu, Executive Editor Tushar Kamath, and Opinion Editor Claire Lazar.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, columns, and editorial cartoons are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to *letters@tech.mit.edu*. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by 4:30 p.m. two days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority.

Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

Guest columns are opinion articles submitted by members of the MIT or local community.

TO REACH US

The Tech's telephone number is (617) 253-1541. Email is the easiest way to reach any member of our staff. If you are unsure whom to contact, send mail to <code>general@tech.mit.edu</code>, and it will be directed to the appropriate person. You can reach the editor in chief by emailing <code>eic@tech.mit.edu</code>. Please send press releases, requests for coverage, and information about errors that call for correction to <code>news@tech.mit.edu</code>. Letters to the editor should be sent to <code>letters@tech.mit.edu</code>. The Tech can be found on the World Wide Web at <code>http://tech.mit.edu</code>.

UPPERCUT by Steve Sullivan







Sudoku I

Solution, page 14

		6				9		
1			5		6			
		2		9	4			
2	9				1	4	6	
7		8				2		1
	1	4	6				8	9
			8	5		6		
			4		9			2
		7				8		

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku I

Solution, page 14

24×		6÷		20×	
	150×				2–
19+			72×	3	
		3		2×	
	24×	2		36×	
1		20×			

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Sudoku II

Solution, page 14

			5	2			3	9
4		3		1	7			
	1	5			9			
5	8						9	
		9				3		
	4						7	1
			8			5	4	
			1	9		7		2
8	7			6	5			

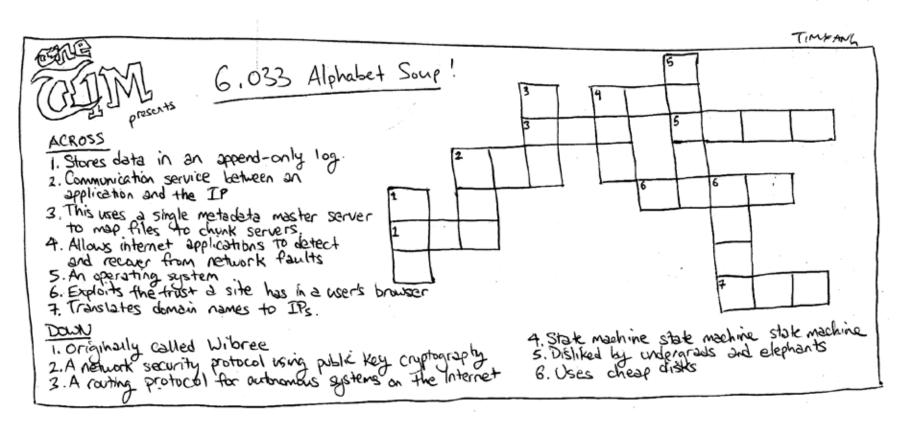
Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku II

Solution, page 14

24×			14+		5
	108×				4x
90×		1	6+		
	20×	-	180×		
		6+			3
40×				18×	

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.



Traveling Light by S.N.

ACROSS

- 1 Pet adoption org.
- 6 Stately display
- 10 Crow call
- 13 Incredible bargain
- 14 Said aloud
- 15 Game of Thrones channel
- 16 Northwest ski resort
- 19 From the Swiss capital
- 20 Find out about 21 Tennis pro Roddick
- 22 Artist's inspiration
- 25 Churchill title
- 26 Pigpen
- 27 Pair of people
- 30 __ Lanka
- 32 Made up, as a new word
- 33 More flimsy, as an excuse
- 35 With 38 Across, city near Reno
- 38 See 35 Across
- 39 Full of sediment
- 40 Most important thing to do
- 43 Teachers' union: Abbr.
- 44 Ottawan's anthem

- 62 Apple's tune carrier 63 Awarded
- 64 Gobbled up 65 Skyfall spy

46 Monopolize

49 Syringe amts.

51 Snake sound

53 Move with swagger

58 City near Denver

61 Winter hrs. in L.A.

52 Taper off

55 Meantime

66 Has its premiere

DOWN

- 1 Say OK
- 2 Well-constructed
- 3 Minimal money
- 4 Batman's hangout
- 5 "That's too bad"
- 6 Officeholder, for short 7 Mine yield
- 9 Ballet bend
- 8 Willful destruction
- 10 Personal magnetism

- 11 Couldn't stand
- 12 Canine call
- 17 Tea garnish
- 18 Prosecutors, for short
- 19 Undergrad degs.
- 23 Take advantage of
- 24 Grassy turf
- 27 City terrorized by Godzilla
- 28 __ for Wasted (Grafton novel)
- 29 Justice Kagan
- 31 Roth plan
- 32 Old PC monitor
- 34 Boston's Mass _
- 35 Nine-digit ID
- 36 Edible anagram of "pictures"
- 37 Priced course by course
- 38 Indicate one's OK
- 40 __ alai
- 41 Clip-__ (some sunglasses)
- 42 Herb in pesto sauce
- 45 Poorly constructed
- 46 Make tougher 47 Gumbo ingredients

49

16

26

39

43

58

61

- 50 __-cone (summer treat)
- 52 Make wicker baskets
- 53 Biggest of the Berenstain Bears
- 55 56 57 63 66 54 Nursery furnishing

15

- 48 Any birthstone

62

- 56 Cancelled, informally
- 57 Take a fall
- 59 Debate side
- 60 Unconventional

Technical Problems 2

Technical Problems is a weekly column consisting of puzzles and math problems intended to be accessible to undergraduates of all majors. The column features new problems each week as well as solutions to the problems posed two weeks earlier. The solutions to last week's problems will be included in the column next week. If you are interested in having one or more of your solutions published in the column, please send them to general@tech.mit.edu.

There are 100 passengers about to board a plane with ssenger is assigned a dist the plane. The first passenger who boards has forgotten his seat number and sits in a randomly selected seat on the plane. Each passenger who boards after him either sits in his or her assigned seat, if it is empty, or sits in a randomly selected seat from the unoccupied seats otherwise. What is the probability that the last passenger to board the plane sits in her assigned seat?

Problem 2

Four congruent right triangles are given. Adriana picks one of them and cuts it along its altitude, obtaining two new right triangles. She repeats this operation several times. Prove that no matter how Adriana performs the cuts, she can always find among the triangles two that are congruent.

Problem 3

Fix positive integers n and k where k is at least 2. A list of *n* integers is written in a row on a blackboard. Alice can choose a contiguous block of integers, and Bob will either add 1 to all of them or subtract 1 from all of them. Alice has no control over what Bob does, but she can repeat this step as often as she likes, possibly adapting her selections based on what Bob does. Prove that Alice can ensure that after a finite number of steps, at least n - k + 2 numbers on the blackboard are simultaneously divisible by k.

Compiled and edited by Matthew Brennan.

Do you have a story to tell?

Can you tell a personal story in writing or in an interview?

The Tech wants to publish stories from the MIT community

Sample topics:

Experiencing discrimination at MIT

Choosing between divergent career paths

Your slice of MIT culture

Romance at MIT

Or anything else you can tell as a compelling story

Email cl@the-tech.mit.edu with stories or proposals

Thursday, April 9, 2015





SATURDAY, APRIL 11 8-11PM, LOBDELL (W20-208)



TICKETS
MIT FREE IF SIGNED UP, \$2 AT DOOR
NON-MIT \$5 AT DOOR

8 THE TECH THURSDAY, APRIL 9, 2015



Langston E. Fitts '16 leads MIT's Ridonkulous in a number on Friday night.



Katrina Mikofalvy '18 (right) dances with MIT's Fixation dance troupe.



Langston E. Fitts '16 roars during the closing number by MIT's Ridonkulous.





MIT Bhangra dancers (from left) Keerti Shukla '15, Nikita K. Kodali '17, and Aneesh M. Anand '17 perform.



MIT's Construct gives a colorful show.



Phunk Phenomenon Urban Dance Theatre perform at Footwork.

DANCE REVIEW

Revelations in body and soul

Review of the Alvin Ailey American Dance Theater

By Davie Rolnick

STAFF WRITER

Try telling a wordless story in five minutes that inspires your audience and distills reality. At the Alvin Ailey American Dance Theater (AAADT), this art is perfected by a team of performers as graceful and poetic as they are energetic and assured. Billed as a "ballet", Alvin Ailey is refreshingly accessible and attracts a more diverse audience than the typical "Nutcracker" or "Swan Lake." While generally following the forms of classical ballet, the show includes contemporary music and costuming, and small gestures like jazz hands or waving goodbye help turn dancers into relatable people.

The piece "Bad Blood" is a captivating reflection on relations between the sexes. With striking, clear-cut moves that recall physical training (there's even a gym bench on stage), the dancers exchange dominance and alternately display strength and weak-

ness, as if in a delicately choreographed game. In music by Laurie Anderson, the singer muses on how people move: "You're falling, and you catch yourself from falling, and this is how you can be walking and falling at the same time."

"Revelations" is Alvin Ailey's signature work, according to Gregory Stuart, company manager at the AAADT. The costumed dancers look as if they could have stepped out of a Baptist festival in 1940s Texas, and the music declares "Fix me Jesus!" and "Lord, I wanna be ready." By turns, the company mourns, flees from sin, crosses a Jordan River (of blue ribbons), and ends with an ecstatic jubilee in which the audience can join in clapping. There is a powerful sense of community in "Revelations," a striking demonstration of the dancers' ability to work as a unit without leads, yet with each individual a unique character.

Beneath the rituals and the exquisite choreography, there is a subtler message

that dates back to the 1960 premiere. "To me, it's a protest," said Shannan Smith, who trained with the Alvin Ailey dance school and now works at the MIT Alumni Association. "A piece about a Negro spiritual with the text 'I've been 'buked, and I've been beaten.' And that was the piece that they performed when they went round the world."

The AAADT was founded in 1958 by dancer and choreographer Alvin Ailey. In 1962, it was selected by President Kennedy to represent the U.S. in an international cultural tour — the first such company to be predominantly black. Though it welcomes dancers of all races, the AAADT remains active in representing the black experience. With reference to herself as a woman of color, Smith declared: "Their virtuosity and the pride they exude — it gives me permission to feel prideful."

Based in New York City, the company continues to tour widely. "We travel with our own stage," said Stuart, pointing out the multiple layers of roll-out flooring that provide a firm, slightly springy surface for dancing. By bringing its own tech, the AAADT can dance pretty much anywhere. "We have three tractor-trailers," added Mychael Chinn, assistant company manager. "They come in at 8 a.m. and we can be performing at 12."

With such a smooth routine, it is perhaps a challenge to keep much-performed numbers fresh, and at times "Revelations" seems just slightly too polished. Many of the company's most iconic dances date from the 1960s and have been performed continuously since that time, though new dances continue to be choreographed. Generally, however, each gesture and each number comes across with the characteristic Alvin Ailey vitality, and the dancers are visibly captivated by the art they are creating. Stuart spoke with wonder: "Every night, you get to explore something new."

EXHIBIT REVIEW

Capturing experience

Works by Herb Ritts on display at the MFA

By Ka-Yen Yau

Herb Ritts has returned to Boston's Museum of Fine Arts for the first time since 1996. The exhibit opened on March 14, and it revisits some of the American fashion photographer's finest works.

The exhibit opens with a striking photograph of Madonna's strong and unwavering stare. Madonna and Ritts collaborated frequently, and she reappears throughout the rest of the gallery in other photos. The audience first sees only her eyes though, a simple reminder that our eyes are central to the experience of visual art, because our eyes facilitate the appreciation and creation of beauty. Ritts' camera was the means by which he immortalized his vision, therefore the piece also suggests that these photographs allow the audience to see the world the way that Ritts did.

Ritts was drawn to clean lines and strong forms, emphasized through his use of black-and-white photography, a style that produces dramatic and striking results. For a large part of his career, Ritts was fascinated with portraying the idealized body, an homage to the ancient Greek's fascination with the ideal man. His photographs focused on highlighting the human body's beauty and details, and the monochromatic, gray-hued bodies of his models closely resemble the marble of classical Greek sculpture. Ritts used photography as a "modern interpretation of the antique form," made especially clear in *Tony with Black Face, Profile, Los Angeles, 1986.* In this photograph, actor Tony Ward is pictured with dried, cracked clay covering his skin, reminiscent of a decaying and old sculpture that is nonetheless full of grace and stature.

Although Ritts' photography offers insight into his version of reality, they simultaneously offer an insight into my own. When walking through the gallery, I found myself looking inward, struck by a sense of nostalgia and familiarity.

The height of Ritts' career came in the '80s to the early 2000s, right before his premature death. He played a crucial role in defining the pop culture of that time; his pictures graced the covers of magazines, television screens, and billboard fronts. We

have all likely seen one of his works in one place or another without even realizing it. When looking at several specific photographs, I noticed that they felt simultaneously familiar and new to me. Although I can vaguely remember seeing some of these images when I was younger, at that age, my perception and understanding of the world was incredibly different and limited. By seeing these photos again, I realized how much I have changed and matured. These images offer a rich insight into a world that I had certainly lived through but had hardly experienced.

His photographs focused on highlighting the human body's beauty.

But what made his works so memorable, distinctive, and avant-garde? Herb Ritts was a master at juggling dichotomies. He was a master at using natural light and

the resulting shadows to define and emphasize specific contours. With the shining curves of muscles, the reflection from droplets of water, and the clear depths of people's eyes, he was able to convey both strength and fragility simultaneously. His skill in making the natural feel glamorous redefined the world of fashion photography and put his photos on the line between art and propaganda. For instance, although the image, Versace Dress, Back View, El Mirage, 1990, was created to be an advertisement, it is still undeniably art. Ritts used the curved lines of the model's billowing dress to draw the eye to the center and focus of the image, the model herself. The dress drapes the woman in a way that mirrors and dramatizes her curves, creating the impression that she is both sturdy and delicate at the same

Ritts' photography captured and immortalized the experience of the '90s, allowing some to reminisce, some to rediscover, and others to experience for the first time. These works will be on exhibit to experience until November 8, 2015.



Be a PENguin write for us e-mail join@tech.mit.edu

The MIT Climate Change Conversation Committee Wants to Hear From YOU!!

Join us at the following Listening Tour locations: (Lunch or dinner will be provided)



The listening tour is an opportunity for you to share your thoughts on how MIT should address climate change in an open, welcoming environment. Come with ideas, or just come to talk. We want to hear from you.

Open to all members of the MIT community – join a time or location that works for you.



For more information: Scan the QR Code, or visit climatechange.mit.edu/events April 13th 12:00-1:00pm 4-237

April 22nd 7:00-8:00pm W20-306

April 28th 12:00-1:00pm E25-111

May 6th 12:00-1:00pm E62-450

May 7th 5:00-6:00pm 32-155

* April 27th | 1:00-2:00pm Lincoln Laboratory

SAAM SAYS

By Anonymous

"SAAM Says" is a collection of narratives by sexual assault survivors and victim advocates being published during MIT Sexual Assault Awareness Month. This is the first of four pieces in the series.

He hurt me so badly that I couldn't bear the feeling of my own hands. My own hands touching my face, my skin. He had tarnished them. Soiled them because all I imagined were his prickly, aggressive, unloving hands.

He was not a stranger. He was not a monster. He was my friend. Someone I thought highly of, trusted and adored. My exasperation and fury ebbed and flowed. I agonized over whether to report him to the MIT Committee on Discipline or the police. As if I needed more agony.

He texted me "Happy birthday!" He didn't realize that we weren't on speaking terms. He, in fact, wanted to grab dinner. What did I want? To grab his neck for throwing me into a spiral of anxiety, fear, and unrelenting pain. I met with him in person. While our eyes were locked, his face bore the most pathetic expression. He seemed remorseful.

I reasoned that friends forgive. My friends were my world. I couldn't just blast Antarctica off the face of the Earth. I could forgive him. I could fix him. And I could forgive and fix myself.

I wrote him letters. He needed to know how I was feeling — my pain, confusion, and most importantly, my willingness to fix our friendship. I would brave the stairs to the fifth floor of his dorm and tiptoe down the hallway. Like a ninja, I slid my letters under his door. Then it was time to run. Fast. Real fast. Turbo, super-charged, all cylinders, "woosh." I couldn't see him. Not

When I fixed us, I would be able to shut my eyes and not scream silently in fear. And I would be able to smile. I had to fix us.

I wrote him this letter ten days after he assaulted me. I never gave it to him. It's pretty pathetic.

I felt a lot better today. I barely thought about it and you all day. When I did think about you, I really wanted to see you. I wanted to text you to see if you were in your room, then come up and talk for an hour like we usually do. But I'm not ready for that yet. And we still haven't figured out what to do next. What's the best way to help you. I don't know how you're feeling. I have a lot of people to talk to about how I'm feeling. Too many sometimes. It's helping me feel more removed so I can move on. If you need someone to talk to, VPR is a good place. Or mental health. They're both confidential. Maybe you don't need them. I'm sorry to assume. One person I talked to asked me, "why are you protecting him?" She thought I cared too much about how this would affect you. Maybe because I just really hope it has affected you. Not because I want you to feel as horrible as I have sometimes; it's not from a place of revenge. But remorse is a step towards doing better next time. I just want to know that you do care. That we are friends. $I've\ lost\ some\ friends\ over\ this.\ Ijust\ saw\ how$ flimsy our friendship was and that they really didn't care. I liked our friendship. I really liked you. I tried to let you know that. But not in a romantic way. I'm not sure why that was so hard for you, not to understand, but not to act on. Any guy I'm "romantic' with, I stop talking to eventually. I didn't want that to happen. But maybe now it has anyways. I'm still not sure. It matters what you want and how you're feeling, too. And if me writing letters bothers you just text me that. I just want to tell you what I'm thinking. I hate when I don't know how my friends are feeling. I miss you. I don't know if that means something is wrong with me. Possibly.

I nearly imploded trying to fix our friendship. My heart was littered with landmines loaded with ugly memories. If I continued my charge, I would have suffocated on the ashes of our remains. So I abandoned him and preserved what remained of my spirit. I never fixed us but I can smile. I'm so happy

Note: This account has been kept anonymous to protect the identity of the author.



THE TECH 11 THURSDAY, APRIL 9, 2015

President of Niger visits MIT

On April 3, President Mahamadou Issoufou of Niger visited MIT and toured the biophysics laboratory of Ibrahim Cissé, a native of Niger and an assistant professor of physics courses including 8.01 and 8.02.

Impressed by Professor Cissé's and his team's research into deciphering the physics of molecular mechanisms in living cells, President Issoufou said that his country should follow the "Cissé model" of scientific achievement.

Cissé, who in October 2014 received a \$2.34 million New Innovator Award from the National Institutes of Health for the study of transcription in

live mammalian cells, conversed with President Issoufou throughout the afternoon and said, "It's an honor for us to have the president visit us," according to an MIT News release.

Namrata Jayanth, a postdoctoral associate working in Cissé's lab, said: "We were very excited to present our research to [Issoufou]. We were even more thrilled that he took such a keen interest in the lab research and spent time talking to each one of us about our area of specialization."

This was the second time that Issoufou had visited MIT. The first was in 1981.

—William A. Rodríguez

Paper bags will cost 10 cents with subsidies for poor, elderly

As store owners argue against ban, councillor says we survived without plastic before, and we will again

Plastic, from Page 1

tion statewide since 2009.

Supporters of the ban, however, argue that its environmental benefits outweigh any inconveniences it may cause.

"All in all, I think it's a win-win

Dennis Carlone. "We somehow survived without plastic before, and we will do it again."

To offset inconveniences caused by the ban, revenue generated by the paper bag fee will go directly to the establishment. Furthermore,

for everybody," said city councilor businesses have the option to apply for an exemption from the ban in cases of "undue hardship."

> Cambridge joins the nearby municipalities of Newton, Brookline, and Manchester-by-the-Sea, which have passed similar legislation banning plastic bags.

Man arrested after bag of human remains found in Kendall Square

A duffel bag containing parts of a dismembered body was found in front of the Biogen office in Kendall Square roughly half a mile away from the MIT campus on Saturday after the Cambridge Police Department received a call about a suspicious package.

The remains have been identified as belonging to Jonathan Camilien, 26, of Somerville. Carlos Colina, 32, of Cambridge has been taken into custody and charged with assault and battery. Colina, who pled not guilty, knew Camilien before the incident, according a report released by the Middlesex County District Attorney's Of-

FREE

LUNCH

COMPLIMENTARY BEER*

FREE

T-SHIRT

fice on Monday.

Security footage led police to a nearby apartment complex, where additional body parts were found and identified as belonging to Camilien. Police heard a vacuum and noticed the smell of bleach coming from one of the apartments, and Colina eventually emerged with scratches and chemical-soaked clothes, according to press reports.

Colina was previously charged with assault and battery in a pending case and has a history of aggression. His bail was set at \$1 million and he will return to court on April 14.

—Sanjana Srivastava

SUNDAY, MAY 3

Kendall Square

Cambridge, MA

Use promo code | R4RMIT15 I for \$10 off the |

registration fee!





Full, natural sound from an ultra-compact speaker that fits in the palm of your hand. Colored covers available: Blue, Red, Mint, Green, Orange, Gray and Pink.

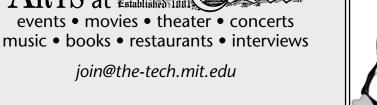


Please direct all inquiries to the "M.I.T. Purchase Program."

1-800-298-BOSE (2673)



©2014 Bose Corporation, Delivery is subject to product availability The two-tone swirl headphone cord is a registered trademark of Bose Corporation. CC014869



www.Race4Research.org All proceeds benefit ALS research at the ALS Therapy Development Institute.

We get you the tickets.

You get us the review.

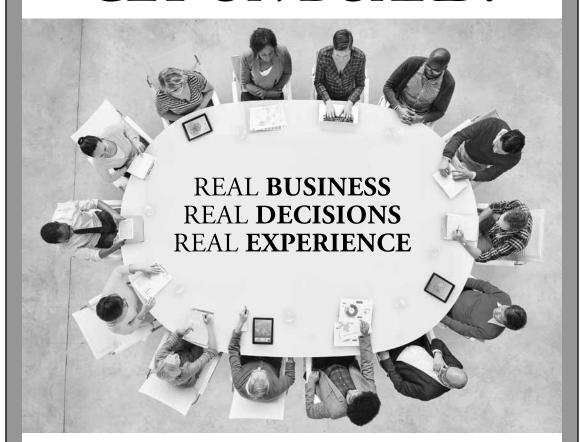


Even The Tech needs tech support and we're looking for some. join@tech.mit.edu

12 THE TECH THURSDAY, APRIL 9, 2015

Attention Student COOP Members

GET ON BOARD!



APPLY TO BE ELECTED TO THE COOP'S BOARD OF DIRECTORS

The COOP is now accepting applications for nomination for election as a Student Director for the 2015 - 2016 academic year. Applications are available online at www.thecoop.com.

APPLICATIONS AVAILABLE ONLINE AT WWW.THECOOP.COM BETWEEN MARCH 30 AND APRIL 10, 2015

WWW.THECOOP.COM



Kendall Hip, not Square.

89.7 (TEET)

Boston's Local NPR

Online at wgbhnews.org

Calling all layout fanatics!

Want to work with Alexander Hamilton?



WANT TO JAM WITH GARY STARKWEATHER?





join@tech.mit.edu



THURSDAY, APRIL 9, 2015 **THE TECH 13**

In closing statements, prosecution emphasizes terrorism, defense stresses role of brother Tamerlan

The next phase of the trial will determine whether Tsarnaev is sentenced to life in prison or given the death penalty. Executions were outlawed in Mass., but this is a federal trial.

Tsarnaev, from Page 1

monumentally failed. We know Sean would be very proud of that."

Jeff Bauman, a survivor who lost both his legs in the bombings, wrote on Facebook, "Today's verdict will never replace the lives that were lost and so dramatically changed, but it is a relief, and one step closer to closure."

Many survivors and families of the victims were present in court to hear the verdict, including the parents of Martin Richards, the 8-year old boy who was killed by the bombings. Richards' mother, Denise, was seen wiping away tears in the courtroom.

In a press release, Mayor Martin Walsh said he was "thankful that this phase of the trial has come to an end" and "hopeful for a swift sentencing process."

Massachusetts Governor Charlie Baker said, "I hope this brings some degree of closure to those individuals and their families whose lives were changed forever on that horrific day."

Among the other charges, Tsarnaev was convicted of using weapons of mass destruction — pressure cooker bombs at the marathon and pipe bombs during a subsequent manhunt in Watertown, Massachusetts. The bombs left three dead and over 250 injured. Tsarnaev was also found responsible for the death of MIT police officer Sean Collier.

Although it is unknown whether he or his brother, Tamerlan, fired

the trigger, it was shown during the trial that Tsarnaev obtained the Ruger handgun used to kill Collier and that Collier's blood was found on the keys and inside of Tsarnaev's car. An MIT graduate student also testified in court that he saw Tsarnaev leaning into the window of Collier's cruiser. Tsarnaev was ultimately convicted for murdering Collier or "aiding and abetting" his brother in doing so.

Although Tsarnaev's lead attorney, Judy Clarke, admitted that he was responsible for the bombings in her opening statements five weeks ago — "It was him," she said jurors were still confronted with weeks of emotional testimonies as the government built its case. The 30 charges took the 12 jurors over 11 hours to deliberate on, likely because of the many details in each

After seven hours of deliberation on Tuesday, the jury asked the judge two questions, one of which pertained to the three counts of conspiracy that Tsarnaev was charged with. As WBZ-TV's Jim Armstrong reported, the jury wanted to know if conspiracies include planning events over multiple days, likely concerning the death of Collier, which happened three days after the bombings. Judge George O'Toole said it could, but that it was up to the jury to decide if it applied

The more disputed phase of the trial is bound to be the sentencing phase, in which the same jury will

determine whether Tsarnaev will spend his life in prison or be sentenced to death.

In cases where juries had to decide between life and death, according to the Justice Department, 41 of the 159 total federal death penalty trials taken by the US government between 1995 and 2000 resulted in capital punishment. If Tsarnaev were sentenced to death row, his execution would be the first one to take place in Massachusetts since 1947. The state outlawed capital punishment in 1982, but since this is a federal trial, the death penalty remains a possibility.

The sentencing phase will consist of prosecutors presenting evidence known as "aggravating factors" as they try to sentence Tsarnaev to the death penalty. Aggravating factors may include the intentional murder of a child, which prosecutors have tried to show in this case by claiming Tsarnaev targeted Martin Richards when he placed the bomb near the finish line of the marathon.

The defense will try to counter the government's aggravating factors with mitigating factors, such as showing how Tsarnaev was influenced by his brother and not jihadism directly. These mitigating factors were not allowed during the first phase of the trial, but with its conclusion, Tsarnaev's attorneys are expected to bring in witnesses to relate the personal side of Tsar-

During closing arguments on

Monday, Tsarnaev was surprisingly more active than he's been in prior proceedings, whispering to his attorneys for extended periods and reading through notes at the defense table. He smiled to his attorneys after walking into the

While the counts he had been charged with were read out, though, Tsarnaev appeared apathetic. At one point, he leaned so far over in his chair that his head was practically on the table in front of him.

The prosecution's closing arguments on Monday were presented by Aloke Chakravarty, who delivered a powerful-at times, almost theatrical-narrative of the evidence against Tsarnaev. Survivors and their family members were seen tearing up as graphic images and videos from earlier in the trial were reintroduced.

Chakravarty painted a portrait of a cold-blooded terrorist who wanted to kill Americans, "It was a coordinated attack to maximize the terror," he said of the two brothers.

Jurors were shown video outside The Forum restaurant where the second bomb went off. In the video, the crowded area of people cheering is immediately interrupted by a yellow flash before the screen turns to a dark-red tint. As the smoke vanishes, a haunting scene emerges, showing people fallen to the ground.

The climax of the government's closing arguments came when Chakravarty described how Tsarnaev was trying to seek revenge on America after becoming engrossed in terrorist readings. He was making a statement, said Chakravarty, "an eye for an eye." As Chakravarty raised his voice to a near shout, he walked over to within feet of Tsarnaev and angrily waved his finger at him. Tsarnaev sat completely still as everyone's eyes landed on

Tsarnaev's lead attorney, Judy Clarke, followed with the defense's closing arguments. "There is no excuse. No one is trying to make one," Clarke told jurors. "It was a senseless act."

Clarke went on to demonstrate how the brother, Tamerlan, was the mastermind behind the attacks. She mentioned phone records that show how Tamerlan was the one to buy the pressure cookers for the bombs.

"We don't deny that [Tsarnaev] fully participated in the events. But if not for Tamerlan, it would not have happened."

Rather than describing a homegrown terrorist, Clarke presented the picture of a 19-year-old boy swayed by his brother.

Clarke's strategy did little to save Tsarnaev from being convicted of all 30 charges. However, the defense's narrative of Tsarnaev's motivations will truly be tested in the second phase of the trial, where jurors will make the life-ordeath decision.

Lenny Rowe of the Suffolk Voice contributed reporting.



CALL FOR SUBMISSIONS: SCHNITZER PRIZE IN THE VISUAL ARTS

> Submission Deadline Monday, April 13, 2015

14 The Tech
Thursday, April 9, 2015

After contract with Lil B was signed, MIT, BSU were obligated to pay rapper in full

Transfer of funds from UA to BSU was ultimately ruled 'inappropriate'

Lil B, from Page 1

tant Director for Student Activities and Finance. "When a student group is transferring either revenues or expenses from their account to another Institute account, it will require my signature as well."

Codner said the change would not affect the ability of student groups to host large events.

The SAO will also "make sure we have financial signatories coming in to ask for contracts, not just someone saying 'I'm a member of this club," said Gallant.

This change is designed to prevent a repeat of what happened in October, when a student approached the BSU about bringing rapper Lil B to campus. "He was wondering if we would join him in doing that," said Grace B. Assaye.

The BSU executive board was still deliberating when they discovered that the student had already initiated a contract with Lil B, which was signed on October 21. The funds from the UA were authorized on October 24, but BSU executive board members were wary about moving forward.

"We were planning not to go through with the event," said BSU Treasurer Yuseff Hamm '16. "We wanted to transfer the money back to the UA." When Yuseff contacted the SAO to reverse the transfer, he found it was too late.

"The train was already kind of down the track at this point," said Gallant. "Even if we had said 'don't come to campus,' we would still have been under obligation to pay [Lil B]. Basically we were under contract because it was signed with the understanding that everybody was good to go."

Despite not having planned to host the event in the first place, the BSU felt that students were excited about bringing Lil B to campus and didn't want to disappoint. After recovering from an "initial shock," the BSU decided to "put on the best possible event that we could ... as if it was our own in the first place," said Rasheed K. Auguste '17, an member of the BSU executive board.

It wasn't until January that questions arose about where the UA money had come from, or whether its transfer had been authorized by the proper UA channels.



Are you dying to tell someone your latest ephiphany?

Write about it!

Join Campus Life @ The Tech!

E-mail join@tech.mit.edu

THE MIT CLIMATE CHANGE CONVERSATION INVITES YOU TO ATTEND:

SHOULD "PRO DIVESTMENT" V "ANTI DIVESTMENT V "ANT

A DEBATE ON FOSSIL FUEL INVESTMENT

AN EVENT FOR MEMBERS OF THE MIT COMMUNITY

THURSDAY APRIL 9TH 4:30-6:00PM MIT KRESGE AUDITORIUM

- FREE FOOD PROVIDED
- BRING YOUR MOBILE DEVICE TO PARTICIPATE DURING THE DEBATE
- SUBMIT YOUR QUESTIONS FOR DEBATE AND DISCUSSION BY PANELISTS TO <u>CLIMATECHANGE@MIT.EDU</u> PRIOR TO THE EVENT





CLIMATECHANGE.MIT.EDU/EVENT

APRIL 12

GREEK EASTER FEAST



Sidney Pacific Yard 1pm - 5pm

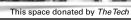
Lots of traditional Greek food, grilled lambs, live music, a cash bar (21+ with ID), and dancing! Tickets sold at the door
Students: \$15
Non-students: \$20

hsamit

Sponsored by LEF/ARCADE









Solution to Sudoku I from page 5

3	5	6	2	1	8	9	4	7
1	4	9	5	7	6	3	2	8
8	7	2	3	9	4	5	1	6
2	9	3	7	8	1	4	6	5
7	6	8	9	4	5	2	3	1
5	1	4	6	2	3	7	8	9
4	2	1	8	5	7	6	9	3
6	8	5	4	3	9	1	7	2
9	3	7	1	6	2	8	5	4

Solution to Sudoku II

from page 5

7	6	8	5	2	4	1	3	9
4	9	3	6	1	7	8	2	5
2	1	5	3	8	9	4	6	7
5	8	7	2	3	1	6	9	4
1	2	9	7	4	6	3		8
3	4	6	თ	5	8	2	7	1
9	3	1	8	7	2	5	4	6
6	5	4	1	9	3	7	8	2
8	7	2	4	6	5	9	1	3

Solution to Techdoku I

from page 5

3	2	6	1	4	5
4	3	1	2	5	6
2	1	5	6	3	4
6	5	3	4	1	2
5	4	2	3	6	1
1	6	4	5	2	3

Solution to Techdoku II

from page 5

3	1	4	6	2	5
2	6	3	5	1	4
5	3	6	2	4	1
6	4	1	3	5	2
1	5	2	4	6	3
4	2	5	1	3	6

Solution to Crossword

from page

	Α	S	Р	С	Α		Р	0	М	Р		С	Α	W
	S	Т	Ε	Α	L		0	R	Α	L		H	В	O
	S	U	N	V	Α	L	L	Ε	Υ	I	D	Α	Н	C
В	Ε	R	N	Е	S	Е			Н	E	Α	R	0	F
A	N	D	Ÿ			М	Ū	S	E		S	T	R	
S	Т	Y		T	W	0	S	0	М	E		S	R	ī
			C	0	ī	N	E	D		L	A	М	E	R
S	Р	Α	R	K	S				N	Е	V	Α	D	A
s	ī	L	T	Y		J	0	В	0	N	E			
N	Ε	Α		0	С		N	Α	D	Α		Н	0	G
	C	C	S		Н	I	S	S			W	Α	N	E
P	R	Α	N	С	Ε			I	Ν	T	E	R	T	N
Α	U	R	0	R	Α	C	0		0	R	Α	D	0	
P	S	T		T	P	0	D		G	T	V	Ε	N	
Α	Т	Е		В	0	N	D		0	Р	E	N	S	

Runner on handling classes, UROP, and athletics

Track can be a mental game of enduring pain for delayed gratification, student says

Gong, from Page 16

We have the national meet right before spring break.

We start training for the outdoor track season a week after spring break. We had a meet this past weekend (4/4-4/5). The national meet for the outdoor season is usually during finals week. Basically I get a week off after the cross-country season before we start preparing for indoor season and then a week off after indoor season before we get started for outdoor season

TT: How do you avoid burnout given that you are training for something all year round?

If you are super intense and training really hard all the time, you run the risk of getting burnt out.

MG: You have to be careful about it. If you are super intense and focused and training really hard all the time, then you run the risk of getting burnt out. So we build up mileage, speed, and intensity of workouts and try to peak during the big meets.

TT: After winning a race at the nationals meet you said in an interview you preferred to run on a certain lane. Can you elaborate?

MG: For distance races, you are not required to run in the same lane all the time like in sprints. Usually after one or two turns you are allowed to come towards the inner lane. In general running on the inner lanes is better because you are covering a shorter distance, but sometimes in crowded races you don't want to get boxed in. You can get tripped easily or spiked. You need enough free space so you can take off for that final burst.

you perform really well in, but, there must be some races that don't go as well for you. When you are about you to go off at the beginning of a race, do you get a good feeling about the ones that you perform well in?

MG: I think there is a feeling like that. I don't always get it. But when I do get that feeling, I usually always do well.

In distance races you usually strategize. You don't want to go out too hard right at the beginning. So it is always a balance to conserve enough energy for the whole race, but at the same time, not be so conservative that you leave yourself too much ground

A strategy I like to use for racing is to run with the top group and go with whatever pace they are going at, and then when there are two or three laps to go, depending on the length of the race, I go for it. When I am having a really good race, I can feel I am holding back and am always on the brink of letting go. When you make a move my coach says you have to go all in. You can't make a half-hearted attempt when it comes to the final dash; you can't give the other athletes the hope of catching up to you again.

TT: How much does your qualifying performance affect your race? Does that play on your mind? Do you re-strategize based on how your qualifying went sometimes?

MG: Yes, what everyone else's times are in qualifying and how they compare with mine does play a role in my strategizing. If everyone else is slower than you, you can just do a pace no one else can keep up with. On the other hand, in a really big meet when there are athletes quite a bit faster than you, it gives you an idea of which group you should keep up with for the bulk of the race before making your move.

But of course, you can't always trust the times in qualifying because people have good and bad days, but it is something good to keep in mind always.

TT: This is pretty interesting. It seems there is a lot of strategizing and not just strapping your boots on and racing.

MG: Absolutely! I feel there are always athletes in the race who are physically capable of matching the winner's time. It comes down to how mentally tough you are in that moment and the strategy you take to get there. There will be different athletes with different strengths - for example, some may be good at the sprints so it is important to know your strengths and play to them.

Other times, it just comes down to how much pain you can take mentally. It's delayed gratification. There is a quote [by Laura Hillenbrand] that comes to mind: "A lifetime of glory is worth a moment of pain."

When I am having a really good race, I can feel I am holding back and am always on the brink of letting go.

There is also another quote [by Jerry Rice] that I have on my wall in my room: "Today I will do what others won't, so tomorrow I can accomplish what others can't." We do two sessions a day when we train, whether we go on runs or do weight training, and then on weekends, we go for long runs. Sometimes you wake up very tired and you don't feel like doing the morning session that's when I read that quote on the wall. I really like that quote.

TT: You are majoring in EECS. Is there any particular field within EECS you are most interested

MG: I still haven't chosen my

the algorithms class (6.046) I am taking right now. It is very challenging. Sometimes I feel like I need to do mental gymnastics to comprehend everything but I relish the challenge. I am also interested in artificial intelligence and machine learning.

I am doing an UROP with Prof. John Guttag right now where we are analyzing different speech samples from children with different speech developmental disorders. We are trying to use machine learning to give diagnoses.

TT: How are you able to balance academics with the practice schedule of a student-athlete?

MG: I think freshman year wasn't so bad. I just started my UROP. I feel like you have to compromise on something, and right now I think what is suffering is my sleep. A couple of weeks before spring break there were three exams — that was the week leading up to the national meet. That was really stressful. Sleep is important for running, but also I needed to study for the exams. Not all weeks are as horrible as some!

TT: Do you get time to chill outside academics and training?

MG: Yeah, I do like to chill during the weekends. I like visiting NYC, cooking, and eating out with friends. I try to make time for myself during the weekends. I play the piano. I like to watch TV shows with my friends. Currently I am watching The 100. It is pretty good. I recommend it!

TT: What is it like to be part of the MIT Track and Field team?

MG: The team spirit is great and a stark contrast from my high school team. Track is a collection of different sports. So you might not always interact with everyone on the team on a daily basis. For our team here, we are required to learn every teammate's name, face, major, and athletic goals. So the pole-vaulters know the runners, and so on.

That helps with cheering people on during meets. Not only are your teammates from your event group cheering for you, but also teammates from other event groups when they are not actively competing. I feel people are more invested, since we know what each individual's goal is, be

When you make a move, you have to go all in. You can't make a halfhearted attempt in the final dash.

it time, length, or height.

The coaches here are really good. Coach Taylor is the head coach. He coaches the runners and is really great. Sometimes he will say you can run a certain time, and I'll be like, no way can I run that fast. He will tell us to trust training, and then eventually he turns out to be right. Pretty remarkable! He has the right combination of mental toughness and understanding.

TT: What are your goals for the upcoming seasons?

MG: I want to win all the events I am participating in during the national meet. I participated in the mile, the 3000m, and the relay. I won the 3000m but finished third in the mile and second in the relay. Going into the final lap I was in the lead in both the mile and the relay, and I got sprinted down in the last 100m or so, so that was disappointing. But it was a good experience. I would like to improve.

I also want to focus and do well in the 1500m and 5000m during the outdoor meets.

TT: Thanks for making the time to talk to us. All the best!

MG: This was fun. Thanks! This transcript was lightly edited for clarity and length.

Please keep sending your nominations to sports@the-tech.mit.

Men's volleyball team wins annual Scramble Tournament

Alex Klein '15 named MVP at final outing of season

By Mindy Brauer

In their final outing of the season, the MIT men's volleyball team captured their second straight MIT Scramble Tournament title on Satur-



day, April 4. The Engineers blanked Lehman College (25-12, 25-13, 25-17), Bard College (25-17, 25-14, 25-20), and Endicott College (25-21, 25-23, 25-15) to finish the year with a record of 18-11. Alex Klein '15 was

named the Tournament MVP while Brendan Chang'16 secured a spot on the All-Tournament Team.

In the opener against Lehman on Friday night, Andrew Busse '15 paced MIT with eight kills, a .538 hitting performance, and two blocks. Klein and Sean Kropp '17 both recorded seven kills while senior Chris Omahan '15 produced five kills and four digs. Jordan Lucier '17 led the back row with six digs, followed by four from classmate Suyash Fulay '17. Jack Serrino '18 bolstered the defense with a match-high three blocks while freshmen Tom Leech '18 and Andrew Hall G earned three and two aces, respectively. Chang totaled 25 assists and two blocks as Steve Lonhart '18 added six assists.

Busse led all players with 10 kills to go along with a .412 hitting effort versus Bard. Klein and Serrino both contributed nine kills as Klein notched six digs. Martin Krasuski '17 tacked on six kills and six digs while Lucier collected 12 digs. Chang generated 33 assists and 10 digs as Leech added two

In what proved to be the championship match against Endicott, Klein produced a match-high 17 kills while Serrino posted 11 kills and two blocks. Omahan tallied 10 kills, eight digs, two aces, and two blocks as Lucier racked up 14 digs. Krasuski totaled eight digs while Busse chipped in two blocks. Chang rounded out the squad with 37 assists, six digs, and two blocks.



Alexander C. Klein '15 bats the ball after a diving save by Thomas F. Leech '18 kept the point alive during a game against Lehman College on Friday, April 3. The game was part of the Scramble Tournament, which MIT dominated, winning all four of its games 3-0.

Men's tennis blanks Springfield 9-0

MIT season improves to an 8-2 record overall, 1-1 in conference

By Phil Hess

DAPER STAFF

MIT swept the doubles matches against Springfield College and used the momentum to complete a 9-0 win

over the Pride in New England Women's and Men's Athletic Conference (NEWMAC) men's tennis action. MIT improved to 8-2 overall and 1-1 in the NEW-

MAC while Springfield fell to 4-5 and

In sweeping the doubles matches MIT did not allow more than three games to Springfield in any of the contests. The Engineers' No. 1 team of Kevin Wang '16 and Eugene Oh '15 downed Springfield's duo of sophomores Tanner DeVarennes and Justin Danielewicz 8-2 to start the day off, MIT then took the Nos. 2 and 3 matches by identical 8-3 scores to go up 3-0 in the match.

In singles play MIT stayed in control, winning all six matches in straight sets. Wang won at No. 1 over DeVarennes, 6-2, 6-2, while at No. 4 Jeffrey Sperling '15 allowed just one game to his opponent in a 6-1, 6-0 decision. Kenny Gea '17, Alex Jaffe '16, and Kristopher Bronner '17 all gave up just two games in their wins at Nos. 3, 5 and 6. At No. 2 Brian Lilley '18 fought off a first set challenge from Danielewicz, taking a 6-4, 6-0 win for the Engineers.

Do you wish your sport was covered?

Hello, Athletes, look at the sports page, now back to you, now back to the sports page, now back to you. Sadly, your sport isn't there, but if you started writing for *The Tech*, it could be. Look down, back up, where are you? You're on the front page. Anything is possible when you write for *The Tech*.

sports@tech.mit.edu

16 THE TECH
THURSDAY, APRIL 9, 2015

April's Player of the Month: Maryann Gong'17

NCAA DIII Women's Track Athlete of the Year tells what inspires her to persevere



ORTS SPORTS SPO

Maryann Gong '17, recently named NCAA Division III Women's Track Athlete of the Year, runs at a national meet on March 13.

By Souparno Ghosh

The Tech's April Player of the Month is Maryann Gong '17. Gong was recently named the NCAA Division III Women's Track Athlete of the Year by the

U.S. Track and Field and Cross Country Coaches Association. She won the 3000m race at the national meet to go along with a third place finish in the mile race and helped her team clinch second in the relay. She was also instrumental in leading the women's track

and field team to victory in the Division III regional meet.

Remarkably, by the time we had a chance to catch up with her, she had already started training for the cross-country season. Her determination to be the best was very apparent. As Coach Taylor, the director of Track and Field and Cross Country at MIT put it: "Maryann is a very talented runner, but that is not what separates her from the rest. What sets her apart is that she not only says she wants to be the best, she is willing to do what it takes to get there. She is very coachable and extremely dedicated. She wants to reach her potential and will not back down due to the required workload. Maintaining a 5.0 GPA and running 80 miles per week, and all that comes with that (travel to competitions, seeing the athletic trainers regularly, cross training, mental training, strength training) requires amazing time management and keeping the goals in focus. In my 35 years of coaching there have only been a handful of student-athletes willing and able to do the work required for such excellence in both areas."

Despite her tight schedule, Maryann Gong was generous with her time as she gave us a glimpse of what it takes to be premier student-athlete at MIT. From race strategy to a TV series recommendation to a quote on her wall, this is Maryann Gong unplugged:

The Tech: Congratulations on being named NCAA Div. III Track Athlete of the Year and winning the 3000m race at the national meet.

Maryann Gong: Thank you! I think overall our indoor season was good for me on a personal level and also for the team, because last year the women's team was close but did not quite win the Division III regionals. This year we all brought our A game and won the regional meet overall. Personally I had two good races, the mile and the 800m.

TT: Can you explain to us what the track and field season is like? When does it start? When are the indoor and outdoor meets?

MG: For distance athletes, a lot of us do crosscountry, which is during the fall, so we don't start training for track till cross-country is over. I started training for the indoor season on December 1 last year. We participate in a lot of races at Boston University during the indoor season. They host a lot of big meets that not only attract Div. III but also Div. II, Div. I, and elite runners. That gives us a great opportunity to race people who are really fast.

Most of our season is geared towards the regional meet. There are strong teams like Middlebury and Williams College who pose stiff challenges. We were able to overcome them this year, which was good.

Gong, Page 15

POST-APOCALYPTIC SOCIOLOGY 101

Streaming is now in session. Watch your favorite TV shows live or stream them when you want.



The Walking Dead available at xfinityoncampus.com

New this year to Residence Halls!

Now you can stream thousands of top shows and movies on any device. Best of all, this service is included with your on-campus housing fee.



The Walking Dead and New Girl available with the XFINITY On Campus app.
The Big Bang Theory available at xfinityoncampus.com.

Getting started is easy:

- 1. Go to xfinityoncampus.com.
- 2. Select your school from the drop-down menu.
- 3. Follow the login instructions and start watching.

Add HBO°, SHOWTIME°, the Sports Entertainment Package and more for a small monthly fee.



Start watching now at **xfinityoncampus.com.**







What's Going On?

MIT can be a bewildering place if you don't know what's going on.

Don't be a confused panda! Instead, be a smart panda. A happy panda.

Tech reporters hunt down news; photographers get exclusive shots; arts reviewers attend exclusive contents and interview stars; opinion writers rouse campus support (or ire) on important topics; our business department sells advertisements from all over the nation; and production staff see the entire issue-even the parts that don't make it to press-long before we print.

Want in? Join The Tech!

Restrictions apply. Not available in all areas. Programming varies depending on campus. © 2015 Comcast. All rights reserved. TBS logo is a trademark of Turner Broadcasting System, Inc. A Time Warner Company. All rights reserved. NEW GIRL TM © 2014 Twentieth Century Fox Film Corporation. All rights reserved.